

REMARKS

This is intended as a full and complete response to the Final Office Action dated November 19, 2009, having a shortened statutory period for response set to expire on February 19, 2010. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1 and 3-22 remain pending in the application and are shown above. Claims 1 and 3-22 stand rejected by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

Applicant proposes to amend claims 1, 6, 10, 12, 14, 21, and 22 for matters of form. Applicant submits that no new matter has been introduced in this amendment and respectfully requests the Examiner enter this proposed amendment.

Claim Rejections – 35 U.S.C. § 103

Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kawanami et al* (U.S. Patent No. 5,065,034, hereafter *Kawanami*) in view of *Lischke et al* (U.S. Patent No. 4,899,060, hereafter *Lischke*). Applicant respectfully traverses the rejection.

The Examiner indicates that an element "capable of" performing a function is not a positive limitation in rejecting claim 1. Applicant proposes to remove the term "capable of" from claims 1, 6, 10, 12, 14, 21, and 22 for matters of form. Since the specification supports a first means (e.g. 24 in Figure 3a) and a second means (e.g. 34 in Figure 3a) each comprises two piezo-drives (e.g. 24a, 24b, 34a, 34b) for driving the respective members in two orthogonal directions (Figure 3a, and paragraph [0065]), the first means and the second means in claims 1, 21 and 22 are in proper form as means-plus-function limitations. Therefore, claims 1, 21, and 22 set forth that a first means for moving the first

member in two orthogonal directions, and a second means for moving the second member in two orthogonal directions.

Applicant respectfully submits that the combination of *Kawanami* and *Lischke* does not teach or suggest a first means for moving the first member in two orthogonal directions, and a second means for moving the second member in two orthogonal directions, as set forth in claim 1.

Kawanami teaches an aperture device which includes a plurality of slit plates, and each slit plate includes slits having different widths, and the slit plates are superimposed so that the slits overlap to define an aperture (Abstract). The Examiner cited Figures 4 and 5 of *Kawanami* in rejecting claim 1. The cited embodiment teaches an aperture device 15 having slit plates 11a and 11b having the same configuration and movable only in the longitudinal directions of slits 14 (column 3 lines 38-43). *Kawanami* teaches that a push plate 18 moved by a cam 19 moves the slit plates 11a and 11b at the same time (column 4 lines 23 – 42). *Kawanami* teaches that the width of the slit 14 defines the diameter of a desired aperture 13 (column 3 lines 58-61) and the position and size of the aperture have almost no change even if there is an error in the dimension of the push plate 18 and/or the cam 19 (column 4 lines 43-47). As admitted by the Examiner, *Kawanami* does not teach or suggest a second means for moving a second member independently of the first member.

The Examiner cited Figure 3a and column 4 lines 36-60 of *Lischke* for teaching a means for moving the second member independently from the first member. The cited paragraph teaches moving a shaping diaphragm FB' relative to a circular control diaphragm SB''. *Lischke* teaches that the shaping diaphragm FB' is displaceable with the assistance of a piezo-electric element. Thus, *Lischke* teaches in the direction that only one diaphragm is moved in column 4 lines 35-60 cited by the Examiner. There is no teaching of moving both the shaping diaphragm FB' and the circular control diaphragm SB'' in the cited paragraph. In fact, *Lischke* indicates that the simply constructed diaphragm system shown in Figure 3a has the advantages that all the particle probes can be simultaneously

varied and reduced to desired dimension (column 4 lines 35-39). Additionally, a person skilled in the art would recognize that it would be advantageous for *Lischke* to move only one element because the border of the beam would be known which would be beneficial for the lithography process. Accordingly, even though *Lischke* teaches moving the diaphragm FB' without moving the circular control diaphragm SB'', it is not obvious for a person skilled in the art to use first and second moving means to move first and second blocking elements independently.

Furthermore, the combination of *Kawanami* and *Lischke* does not teach or suggest that the first means and second means for moving the members each move the respective members independently in two orthogonal directions.

The Examiner asserted that it would be obvious to ordinary artisans to modify the invention of *Kawanami* by having means for moving each member in two orthogonal directions for the purpose of having greater control over the shape of the aperture. Applicant respectfully disagrees. *Kawanami* teaches that the shape of the aperture is determined by the widths of superimposed slits in the two or more slit plates moving along the longitudinal directions of the slits, and moving each slit plate in an additional direction would not change the shape of the aperture (column 1 line 63-column 2 line 8). Thus, *Kawanami* teaches away from moving the slit plates to change the shape of the aperture. Therefore, it is not obvious to person skilled in the art to incorporate means for moving each slit plate in *Kawanami* in the two orthogonal directions to change the shape of the aperture.

Accordingly, the combination of *Kawanami* and *Lischke* does not teach or suggest that a charged particle beam device for inspecting or structuring a specimen comprising a charged particle beam source to generate a charged particle beam, a focussing lens to focus the charged particle beam onto the specimen, and an aperture system for defining an aperture for the charged particle beam, the aperture system comprising a first member to block a first portion of the charged particle beam between the charged particle beam source and the focussing lens, a second member to block a second portion of the charged

particle beam between the charged particle beam source and the focussing lens, first means for moving the first member to adjust a size of a blocked first portion of the charged particle beam, and second means for moving the second member independently of the first member, wherein the first member and the second member have a respective first edge and a second edge defining a respective first boundary and a second boundary of the aperture, the first edge is a first lateral edge and the second edge is a second lateral edge, and the first means for moving the first member and second means for moving the second member each move the respective member independently in two orthogonal directions, as recited in claim 1 as amended, and claims dependent thereon.

Therefore, claims 1-7 are in condition for allowance. Withdrawal of this rejection is respectfully requested.

Claims 8-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kawanami* in view of *Lischke*, and further in view of *Wollnik* (U.S. Patent No. 3,610,734, hereafter *Wollnik*). Applicant respectfully traverses the rejection.

Kawanami and *Lischke* are discussed above. *Wollnik* discloses a temperature-controlled orifice or slit for optical, ion-optical, and electron-optical instructions, comprising of one or more pairs of slit-defining platelet-shaped jaws which serve to vary the width of an orifice or slit formed by the inner edges of the jaws (Abstract). *Wollnik* does not disclose a means for movement of the jaws independently in two orthogonal directions.

Therefore, the combination of *Kawanami* and *Lischke* and *Wollnik* also does not teach or suggest the subject matter set forth in claim 1, on which claims 8-17 are dependent.

Accordingly, claims 8-17 are in condition for allowance. With drawal of this rejection is resepectully requested.

Claims 18-19 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kawanami* in view of *Lischke* and further in view of *Szilagyi* (U.S. Patent No. 4,963,748, hereafter *Szilagyi*). Applicant respectfully traverses the rejection.

Kawanami and *Lischke* are discussed above. *Szilagyi* is cited for teaching an octopole component. However, *Szilagyi* does not teach or suggest a first means for moving the first member in two orthogonal directions, and a second means for moving the second member in two orthogonal directions, as set forth in claim 1, on which claims 18-19 are dependent, and in claim 21.

Accordingly, claims 18-19 and 21 are in condition for allowance. Withdrawal of this reference is respectfully requested.

Claims 20 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kawanami* in view of *Lischke* and further in view of *Wollnik* as applied to claim 8 above, and further in view of *Nakasugi* (U.S. Publication No. 2004/0149935, hereafter *Nakasugi*). Applicant respectfully traverses the rejection.

Kawanami, *Lischke*, and *Wollnik* are discussed above. *Nakasugi* is cited for teaching rectangular and triangular apertures. However, *Nakasugi* does not teach or suggest a first means for moving the first member in two orthogonal directions, and a second means for moving the second member in two orthogonal directions, as set forth in claim 1, on which claim 20 is dependent, and in claim 22.

Accordingly, claims 20 and 22 are in condition for allowance. Withdrawal of this reference is respectfully requested.

Double Patenting

Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. 11/923,438.

The Applicants provisionally agree to file a terminal disclaimer to resolve the present double patenting rejection if and when one of the applications is finally allowed. In accordance with MPEP §804(I)(B), "if the 'provisional' double patenting rejection in one application is the only rejection remaining in that application, the examiner should then withdraw that rejection and permit the application to issue as a patent, thereby converting the 'provisional' double patenting rejection in the other application(s) into a double patenting rejection at the time one application issues as a patent." As such, Applicants will file a terminal disclaimer in the future, if necessary.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,

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